CLAIMS

What is claimed is:

Sub A2

1. A ~~flat panel display system for displaying~~ data relating to aircraft system parameters from corresponding aircraft instruments to a flight crew in a cockpit of an aircraft, comprising:

a flat panel display for visually displaying the aircraft system parameters on simulated instruments found on the flat panel display and for displaying indicia that said data is being received related to the aircraft system parameters from corresponding aircraft instruments;

a first central processor for receiving said data from the aircraft instruments measuring said aircraft system parameters;

a first graphics generator operatively coupled to the first central processor for generating a first set of color data as a function of the data received by the first central processor and for outputting the first set of color data to the flat panel display so that the flat panel display can form the simulated instruments and the indicia;

a second central processor for receiving said data from the aircraft instruments measuring said aircraft system parameters; and

a second graphics generator operatively coupled to the second central processor for generating a second set of color data as a function of the data received by the second central processor and for outputting the second set of color data to the flat panel display in a different color than said first set of color data so that the flat panel display can form with the output from the first graphics generator the simulated instruments and the indicia wherein said indicia is of another color different from the

colors of said first and second sets of color data,

wherein when either of the first and second set of color data is not output to the flat panel display, the indicia on the flat panel display is in a color different from said other color.

2. The flat panel display system of claim 1, further comprising a video mulitplexer circuit connected between the first and second graphics generators and the flat panel display for multiplexing and timing the output of the first and second sets of color data for output to the flat panel display.

3. The flat panel display system of claim 1, further comprising a third central processor for receiving data from aircraft instruments related to the aircraft system parameters and for interrogating the aircraft systems with simulated flight data on a statistical basis to build a database of statistical measurements of the aircraft systems for maintenance and diagnostic purposes.

4. The flat panel display system of claim 3, wherein the third central processor implements Monte Carlo statistics.

5. The flat panel display system of claim 3, further comprising an external memory device for storing external flight data that can be recalled by the flight crew and displayed on the flat panel display.

6. The flat panel display system of claim 5, further comprising an input

device in communication with the external memory device for accessing the external data so that the external data can be displayed on the flat panel display.

7. The flat panel display system of claim 6, wherein the flat panel display further comprises a bezel surrounding a periphery of the flat panel display and wherein the input device is interfaced to the bezel.

8. The flat panel display system of claim 7, wherein the input device comprises a capacitive touch pad.

9. The flat panel display system of claim 8, wherein the external memory device comprises a compact disc player.

10. The flat panel display system of claim 9, wherein the external data comprises an aircraft navigation chart.

11. A color flat panel display for displaying to a crew in a cockpit in an aircraft simulated aircraft instruments and displaying aircraft system parameters related to data from aircraft instruments and indicia for indicating that said data is being received, comprising:

a display screen having a periphery on which the simulated aircraft instruments can be displayed in a first color and said indicia can be displayed in a second color different from said first color and on which a condition of data error can be detected by a flight crew when the aircraft systems that feed the data related to the aircraft system

parameters to the display screen for display on the simulated aircraft instruments do not function properly;

a bezel surrounding the periphery of the display screen for holding the display screen in a fixed position; and

an input device mounted to the bezel for accessing an external memory device containing data necessary for flight.

12. The color flat panel display of claim 11, wherein the input device is a capacitive touch pad.

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13. ~~A circuit for controlling a flat panel display that displays on simulated~~ aircraft instruments data related to aircraft system parameters gathered from aircraft instruments and indicia that show that the data is being received by the flat panel display, comprising:

a first central processor for receiving said data from the aircraft instruments measuring said aircraft system parameters;

a first graphics generator operatively coupled to the first central processor for generating a first set of color data as a function of the data received by the first central processor and for outputting the first set of color data to the flat panel display so that the flat panel display can form the simulated instruments and the indicia;

a second central processor for receiving said data from the aircraft instruments measuring said aircraft system parameters;

a second graphics generator operatively coupled to the second central

processor for generating a second set of color data as a function of the data received by the second central processor and for outputting the second set of color data to the flat panel display in a different color than said first set of color data so that the flat panel display can form with the output from the first graphics generator the simulated instruments and the indicia wherein said indicia is of another color different from the colors of said first and second sets of color data,

wherein when either of the first and second set of color data is not output to the flat panel display, the indicia on the flat panel display is in a color different from said other color; and

a third central processor for receiving data from aircraft instruments related to the aircraft systems parameters and for interrogating the aircraft systems with simulated flight data on a statistical basis to build a database of statistical measurements of the aircraft systems for maintenance and diagnostic purposes.

14. The circuit of claim 13, further comprising a video mulitplexer circuit connected between the first and second graphics generators for multiplexing and timing the output of the first and second sets of color data to the flat panel display.

15. The circuit of claim 14, wherein the third central processor implements Monte Carlo statistics.

16. The circuit of claim 15, further comprising an external memory device for storing external flight data that can be recalled by the flight crew and displayed on the flat panel display.

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17. The circuit of claim 16, further comprising an input device in communication with the external memory device for accessing the external data so that the external data can be displayed on the flat panel display.

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18. The circuit of claim 17, wherein the input device comprises a capacitive touch pad.

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